REMARKS

Claims 1-15 and 22 are currently pending in this application. Claims 2-3 and 16-21 have been canceled. Claims 1, 4-7, 9, 10, 12 and 14 have been amended. Claims 23-39 have been added. No new matter has been added. In view of these amendments and of the following remarks, Applicants believe that all the asserted rejections are in condition for withdrawal and all the claims are in condition for allowance.

Claims 1-15 and 22 stand rejected under 35 U.S.C. 112, first paragraph, for purported lack of enablement. The Examiner asserts that, while the specification enables bovine lactoferrin and fluconazole for the treatment of *Candida*, it does not provide enablement for a medicament for the treatment and/or prevention of infections caused by bacteria, fungi, viri and the like, inflammations and/or tumors, etc. Claims 2 and 3 have been canceled and claim 1 has been amended to recite the limitations of dependent claims 2, 3 and 7. In particular, claim 1 now recites amino acid sequences 1 through 15 or derivatives thereof having an amide at the carboxy end thereof; and a buffer in the range of 0.5-100 meq H^+ which maintains the pH of treatable tissue in the range of about 5 to 8.5. Applicants submit that the subject matter of claim 1 as amended is more than adequately enabled by the specification, and because claims 4-15 and 22 depend either directly or indirectly from claim 1, they too are enabled, thus this rejection is believed to be obviated.

Claim 33 has been added which recites the critical feature of the invention, namely, the surprising finding that the effectiveness of the medicaments is pH dependent, and thus the effectiveness of the medicaments can be controlled with the use of pH buffers. In particular, new claim 33 recites an improved medicament comprised of a polycationic peptide or a protein for treatment and/or prevention of infections caused by bacteria, fungi, viri and the like, inflammations and/or tumors, wherein a buffer is added in an amount of between about 0.5 to 100 meq H^+ per unit dose medicament to the medicament in order to maintain the pH of a treatable tissue within a preselected range. Applicants submit that the breadth and scope of new claim 33, and claims 34-39 which depend therefrom, also are more than adequately enabled by the specification.

Claims 2, 3, 5, 6, 9, 10, 12 and 14 stand rejected under 35 U.S.C. 112. second paragraph, for purported indefiniteness. Claims 2 and 3 have been canceled, claim 4 has been amended to correct its dependency, claims 5, 6, 9, 10, 12 and 14 have been amended to delete the linking terms and the narrower ranges or limitations, and new claims 23-32 have been added which now recite the narrower ranges or limitations deleted from claims 5, 6, 9, 10, 12 and 14, thus obviating this rejection.

Claims 1, 2, 4, 5, 8, 9, 11, 15 and 22 stand rejected under 35 U.S.C. 102(b) for purported anticipation by Steinberg. The Examiner asserts that Steinberg teaches compositions suitable for treating oral mucositis with antimicrobial peptides comprising a polycationic peptide and a buffer with a final pH of 7.0-7.2, as well as vehicles and formulations containing 0.12-2.0 mg/ml. Claim 1 has been amended to include the limitations contained in canceled claim 3, as well as canceled claim 2 and amended claim 7. In particular, claim 1 now recites amino acid sequences 1 through 15 or derivatives thereof having an amide at the carboxy end thereof; and a buffer in the range of 0.5-100 meq H^+ which maintains the pH of treatable tissue in the range of about 5 to 8.5. Applicants submit that Steinberg neither teaches nor suggests the particular limitations recited in amended claim 1. Because claims 4, 5, 8, 9, 11, 15 and 22 depend either directly or indirectly from claim 1, they too are neither taught nor suggested by Steinberg.

Claims 3, 6, 7, 10, 12-14 and 22 stand rejected under 35 U.S.C. 103(a) for purported obviousness over Wakabayashi et al. in view of Steinberg. The Examiner asserts that although Wakabayashi et al. teach the effect of bovine lactoferrin coupled with fluconazole to inhibit hyphal growth of *Candida albicans*, they do not teach a buffer for maintaining the pH of treatable tissue within a preselected range. The teaching of Steinberg is as described above.

Wakabayashi et al. teach the use of lactoferrin or lactoferricin in combination with azole compounds in order to inhibit the growth of *C. albicans*. Nowhere do Wakabayashi et al. teach or suggest the use of peptides alone to inhibit such growth. Indeed, Wakabayashi et al. actually teach away from the claimed invention by stating on page 1588, left hand column, last sentence to page 1588, right hand column, first sentence, that the use of the peptide alone has almost no effect.

The Steinberg reference discloses compositions and methods for the prevention and treatment of oral mucositis in which the antimicrobial peptides useful in the methods of the invention are protegrin peptides and/or congeners thereof. Even though it is stated on page 5, lines 25-34, that other broad spectrum antimicrobial peptides, such as lactoferrins, also may be used within the invention, there is no enabling disclosure provided for the use of such antimicrobial peptides, and especially no enabling disclosure for lactoferrins.

More importantly, Applicants point out that the critical feature of the claimed invention is the surprising finding that the effectiveness of the medicaments is pH dependent, and thus the effectiveness of the medicaments can be controlled with the use of pH buffers. Example 1 of Steinberg merely discloses a method of synthesis of active peptides, including a number of steps in which the peptides PG-1 and OM-3 are synthesized, after which these crude linear peptides are dissolved in DMSO and added to 20 mM ammonium acetate, pH 7, wherein the final concentration of the peptide is about 1-8 mg/ml, the pH ranges from 7.0-7.2, and the DMSO concentration ranges from about 5-20%. This composition is not used as a therapeutic agent for the treatment or prevention of oral mucositis, but instead is loaded onto a preparative reverse-phase HPLC column, in which elution from this column is obtained by using buffers in non-physiological ranges and the buffers are removed by stripping, wherein the resulting aqueous solution is lyophilized. These steps result in a dried material that does not contain any of the ammonium acetate buffer initially present. Applicants submit, therefore, that nowhere do Wakabayashi et al. or Steinberg, either alone or in combination, teach or suggest compositions containing a buffer suitable to maintain the pH value of the treatable tissue within a preselected range of 5.0-8.5, that

the strength of the buffer should be at least 1 μmol per 0.5 μmol polycationic peptide, or that the buffer be present in the range of 0.5-100 meq H^+ per unit dose medicament, and thus one skilled in the art would not be motivated to practice the claimed invention based on the Wakabayashi et al. and/or Steinberg.

For all the foregoing reasons, claims 1, 4-15 and 22-39 are patentable over the cited prior art and in condition for allowance. Withdrawal of the asserted rejections and allowance of all pending claims 1, 4-15 and 22-39 are respectfully requested.

Respectfully submitted,

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